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THE

Preface and Introduction

TO THE

ANALYSIS

OF

ITALY:

In which is laid down,

The PLAN of a NEW SYSTEM or BODY

OF

GEOGRAPHICAL MAPS.

Publiſh'd at *Paris* at the Expence of the DUKE OF ORLEANS;

By Monſieur D'ANVILLE,

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TRANSLATED from the FRENCH.

LONDON:

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[Price Eighteeen-pence.]

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ADVERTISEMENT:

IN WHICH

The PLAN *of a* NEW SYSTEM *or* BODY *of* GEOGRAPHICAL MAPS *is laid down.*

THOUGH many learned perſons, equally eminent for erudition and critical knowledge, have already beſtowed much pains upon the Geography of Italy, this New Work will appear ſuperfluous only to ſuch as are ignorant of the View and Plan propoſed in it. Moſt of the learned, in examining and comparing what they find diſperſed in the monuments of antiquity, have contented themſelves with obſerving the defects of Maps, without proceeding to their amendment. It is that however, which conſtitutes the moſt difficult, as it is the moſt eſſential, part of Geography. The labour it requires, ought to have ſome recommendation from its difficulty and importance: but, we could not flatter ourſelves, that a ſcrupulous exactneſs would be equally obvious to every body; and ſtill leſs be aſſured, that a detail carried to the utmoſt extent in writing upon this Subject, would not diſguſt the generality of readers. Theſe inconveniences did not ſuffice, to prevent me from compoſing the Map I now give of Italy, with the explanation annexed to it. If this Analyſis does not in all its parts ſupply the exact equivalent of an uninterrupted ſeries of Triangles, it is at leaſt to be preſumed, that geometrical certainty cannot be ſupplied by combinations either in greater number, or more ſtrictly united with each other. This diſcuſſion will make way for a general obſervation, and one of very great conſequence;

which is, that the uſe of Spaces, one of the capital points of Geography, requires a ſeverity of examination and calculation, that has not hitherto been ſufficiently obſerved in the conſtruction of Maps.

I SHALL add nothing here upon this head, to what will be found in the preliminary part of the Work itſelf. I ſhall take the occaſion of this advertiſement, to give the publick the Plan of a New Syſtem or Body of Geographical Maps, of which Italy now appears only as a ſample. It is not to be doubted but that the diſcoveries and improvements Geography acquires from time, ought to induce Geographers to renew their labours. And it may even be added, that the ancient and known ſources (as will appear in the diſcuſſion of Italy) are not yet exhauſted; and that ſome materials, which ſeem already employed, or at hand to have been ſo, may ſtill contribute very much to the improvement of works of this kind. But I was always ſo fully convinced, that the undertaking a body of general Maps required ſuch great preparatory ſtudies, ſuch frequently repeated labours upon the ſame ſubjects, and ſo ample a collection of materials, as well of particular Maps, as circumſtantial memoirs and informations, that though, during about 20 years, a ſufficiently conſiderable number of particular pieces or eſſays have come from my hands, I ſhould not yet have ventured to attempt ſuch a Work, if the favour and truly royal magnificence of a great Prince, did not make this undertaking a law to me, and facilitate the execution of it. HIS HIGHNESS THE DUKE OF ORLEANS having obſerved, that the four parts of the World, as deſigned by the DUKE OF CHARTRES in the courſe of his ſtudies, and ſome other Maps of my compoſing, differed in ſeveral points from thoſe that preceded them; after having required proofs of thoſe variations, and admitted them, he exhorted me to compoſe new Maps of ſufficient extent to include whatever is moſt important in Geography as well ancient as modern; adding of his own free grace, that he would take upon himſelf the expence of the Work. From that inſtant, *M. the Marqueſs of Argenſon*, Chancellor to his Highneſs the Duke of Orleans, and full of the ſame zeal for letters, inceſſantly preſſed

preſſed me to anſwer the good intentions of his moſt Serene Highneſs by my diligence and application; and it is to his ſollicitation, that I have been permitted to declare to the Public the particular aid and protection, which that great Prince vouchſafes to afford my undertaking.

In the combinations, which I have long been making, upon what was proper for general Maps, I have had reaſon to be aſſured, that the uſual *in folio* (or ſize of ſheets) to which they have been commonly reduced, cannot ſufficiently anſwer that purpoſe. Is there not a kind of temerity, in pretending to make Germany come within the compaſs of a Map of 16 or 18 inches in height? How are that prodigious number of States, of which many Circles of the Empire, not of the greateſt extent, are compoſed, to be diſtinguiſhed in them? Is there any choice to be made between thoſe ſtates, which ſmall as well as great, are equally diſtinct and independant of each other? An inconvenience of this nature may even be evident in reſpect to other ſubjects. In the Map of the World there are many ſpaces, that have no place in the Maps of the parts of the World, the Arctic, and Antarctic, or Auſtral Lands, and the vaſt extent of the South Sea. If the Hemiſphere be bounded at about a foot in diameter, according to the contents of a common ſheet, what expreſſion can we have of what is contained within thoſe ſpaces? If many parts of Aſia and Northern America, are too much contracted in a Map, it muſt neceſſarily follow, that ſome iſlands, and ſome parts of the continent itſelf, which the ſettlements made on them, and commerce render conſiderable, and very important to be known, be reduced to points, from which nothing is to be diſtinguiſhed. And not to neglect antient Geography, which the ſtudy of Hiſtory renders indiſpenſable, if the Map of the Roman World be too ſuccinctly laid down, will it not be neceſſary to provide a ſufficient ſupplement of particular Maps of the countries, that formed the provinces of that empire.

These conſiderations ſeem to me to require, that general Maps ſhould at leaſt take up two ſheets. By this method, they will be

ample enough for the Maps of the principal ſtates of Europe on many occaſions to ſpare the neceſſity of having recourſe to particular ones. The Maps of Aſia, Africa, and America, will ſupply as much, as if each of thoſe parts of the world was cut into different ſections, as moſt Geographers are indiſpenſably obliged to do, to ſupply the inſufficiency of Maps too general, and confined to one ſheet upon thoſe parts. A ſmall number of ſubjects will anſwer all the ends of the antient Geography. When it is conſidered, that the repetition of the limitrophy (or boundary) of the contiguous countries takes up much ſpace in the Maps, it is evident, that a Map of two ſheets can contain what would require four or five in the diviſion of a certain extent of country into ſeveral particular ſections; beſides which, the great continents ſo ſubdivided, always require their general Maps, for their being ſeen all together at one view. Now, is it not more commodious, to include the principal objects under a ſmall number of articles, than to have them diſperſed in many detached pieces? It is no objection to ſay, that Maps of two ſheets are too large for the uſual ſize of Atlas's: Maps of more than one ſheet are every day inſerted in them. Beſides which, if a certain number of general Maps of two ſheets ſupply a ſet in themſelves, there is no neceſſity for adding others to them: they may form a body a-part. This will not be the firſt collection of Maps, that exceed the uſual ſize, of which the French Neptune may ſerve as an example. And as to their largeneſs, they will make amends for that by the ſmallneſs of their number.

HAVING ſpoken of the ſize of the Maps, it is neceſſary to ſpecify the different ſubjects we propoſe to treat in them. In moſt of them the object will be the ſame as in the preceding general Maps. The Map of the World, followed by the four parts of it, and next the principal States of Europe, will always form the diviſion, as well as the matter, of a work of this kind. Diverſity can only conſiſt in the manner of treating the ſame ſubjects. What I ſhall propoſe upon the antient Geography, will be upon a plan more different from what has hitherto been executed.

THE

THE Map of the World is to be taken in the uſual point of view of the hemiſphere antient and new, oriental and occidental. It is not that the Map of the World conſidered by the poles, and as the northern and ſouthern hemiſphere, has not its utility and advantage: but the former manner of projection ſeems commonly to be preferred to the latter. It will be obſerved, that an hemiſphere, of which the diameter riſes to 20 inches, ſupplies a field almoſt three times as conſiderable in ſurface as a diameter of 12 inches, to which the Maps of the world of one ſheet have ſeemed hitherto ſubjected; from whence it follows, that the expreſſion of the parts, which enter into that extent of ſurface ſhould be more perfect, and become more ſenſible. I do not confine the advantage, which reſults from it, to the places alone, that ought to appear only in the Map of the World, as has been ſaid above, and which are not repeated with greater ſpace in the Maps of the parts of the World. For, if we conſider, how much Europe is contracted in an hemiſphere of a foot, we ſhall ſee, that many of the States contained in that part, and which cannot be confounded with others, could however not find diſtinct place and denomination in their too confined ſpace. However, this is the leaſt, that it is neceſſary to expreſs in even the moſt general Map of the World. I alſo add, tho' in reſpect to a country like Italy, it is neither proper nor practicable in the Map of the World to make a diſtinction of particular ſtates, it is neceſſary at leaſt, that the names of certain ſelect cities, ſhould anſwer the principal of thoſe States; that Turin, Milan, Venice, Genoa, Florence, Rome, Naples, ſhould be equally admitted. Amongſt thoſe cities, there is hardly one, that can be excluded rather than another. It is upon the proportion which reſults from this detail, that it is proper to combine the ſpace neceſſary to a Map of the World. And though this obſervation is more evident in reſpect to Europe then the other parts, it however holds good with regard to them all in general.

THE Map of Europe would be too ſuperficial, if in the principal States that compoſe it, the provinces of which they are formed, could not be diſtinguiſhed. It was evidently the narrow bounds of

one

one ſheet, that obliged ſome Geographers to admit no other diviſion in the extent of France, than that of the pretended great governments; a diviſion which never had place, except on holding aſſemblies of ſome ſtates of the kingdom, and which even ought to diſguſt intelligent Geographers; becauſe conſiderable provinces and of the moſt antient denomination, do not appear in them, and are treated as ſubordinate to others of a more recent eſtabliſhment. If the want of ſpace in a Map of Europe may excuſe this diviſion of France, it becomes abſurd in the particular Maps of that kingdom, in which it has been retained. The Map of Europe, not being of extent to admit the political diviſions of the circles of the Empire, the diſtinction of the regions or national provinces of Germany ought however to be found in it; and, ſo much the more neceſſarily, as in the Map of Germany, a like diſtinction, however important it may appear, could not well be clear and diſcernable amidſt the almoſt infinite partition of particular ſtates or poſſeſſions. In fine, a Map of Europe of ſome extent, may ſuffice in ſome meaſure for what regards its moſt remote parts, Poland, Scandinavia, and Ruſſia; in reſpect to which, we muſt even confeſs, that we ſtill want ſome neceſſary helps for treating them with the ſame exactneſs, of which the other parts are ſuſceptible.

ASIA has gained much within ſome few years, on the ſide of Geography. It is no exaggeration to ſay, that China is at this day better known than many parts of Europe. The Jeſuits, to whom we are indebted for this, have included Tartary bordering upon China in their work. Thibet, of which little more than the name was known, is now circumſtantially deſcribed by their care and labour. Great improvements have been made in reſpect to Northern Tartary, over Maps that had already effaced all that preceded them. Beering's voyage fixed the knowledge of a new continent in the moſt remote part of Tartary. Tho' by the pains of the Dutch principally, the coaſts of India, and the adjacent iſlands, of which an exact knowledge is ſo important in reſpect to commerce, are laid down in very ample Charts, the French Eaſt-India Company will compleat that part. It were to be wiſhed, that the part of Aſia

neareſt to Europe, and for which the occaſions of hiſtory, as well antient as modern, excite ſo great a curioſity, ſhared the ſame advantages. I have ſpared neither ſtudy nor enquiries, in reſpect to ſo deſireable an object, for which even what a general Map of Aſia can contain, ought not, in my opinion, to ſuffice; and in conſequence I propoſe to treat it in particular, as will be ſeen hereafter.

AFRICA does not ſeem to promiſe any thing, that may conduce to extending geographical knowledge; but ſomething in point of exactneſs may be added upon what ſeems known. We have more particulars than heretofore concerning part of Barbary. There are remarkable changes to be made in the courſe of the Nile; and it may even be advanced, that the received opinion of the diſcoveries of the ſources of that river admits ſome difficulties. There being more circumſtantial accounts of the Red-Sea, it ought conſequently to be better known. The eaſtern coaſt of Æthiopia, that ſucceeds it, is improved by the Portugueze journals, of which no uſe has been yet made. Some relations, or pieces of hiſtory inform us of various local circumſtances in reſpect to the countries of Congo and Angola; and the coaſt of Guinea is corrected in many places. And laſtly, by uniting the circumſtances, that are to be had in reſpect to Senega, with what Ptolemy and Edriſſi have ſaid upon the inland part of Africa, ſome conſequences that have not been perceived may be deduced.

As to the New World, the natural diſtinction of AMERICA into the NORTHERN and SOUTHERN Parts, will always direct Geographers to make a diviſion of it into two Maps. The firſt of thoſe two parts more generally concerns the nations of Europe than the other, as they have a more equal Share in it, and frequent it more. Beſides which, in confining ourſelves to what is moſt known of New Spain and Canada, as the Map of the World may be deemed ſufficient for the parts beyond thoſe bounds, we ſhall be thereby leſs confined in reſpect to Northern America: and the advantage of a greater detail concerning that part, ought to make amends for the want of equality in the ſcale in reſpect to Southern America. For in fine, the

the Antilles and other iſlands, ſome parts of New France, of the Engliſh Colonies, and of Mexico itſelf, tho' we are not informed concerning them with all poſſible exactneſs, require more ſpace than a Map too confined in its extent, or which contains too much ſpace, can give them. And without taking up ſo much room as the Engliſh Map of Mr. Popple, the ſame objects may however be expreſſed in a more particular and exact manner in many places; tho' that Map has its merit, as it contains ſeveral parts, that are capable of conducing much to the improvement of the Map of Northern America. Some parts of Canada, eſpecially between the River St. Lawrence and Hudſon's-Bay, all Louiſiania, of which I have compoſed a very ample Map, now in Manuſcript amongſt my Papers, will afford either new circumſtances, or ſuch as are better cleared up than before. The reading of ſeveral Manuſcript Volumes in Spaniſh, which belong to the King, and were communicated to me on the occaſion of a Work, with which I had the Honour to be charged for his Majeſty, have ſupplied me in reſpect to ſeveral countries ſubject to Spain, with informations I had not found any where elſe, tho' I had run over, and made extracts from a great number of printed books in the ſame language.

SOUTHERN AMERICA being a great tract of land, into which the depths of the Sea do not enter, it is no wonder, that the knowledge we have of it ſhould diminiſh in proportion as we remove from the coaſts. In ſome parts that knowledge is almoſt confined to the Sea-Shore. The Countries commonly included under the general name of Paraguay, in the whole ſpace between Peru and Brazile, are the moſt conſiderable extent of land that may be ſaid to have Maps; and it is to the Jeſuits we are indebted for them. The inland parts of Peru and the Terra Firma ſtill depend, in a great meaſure, upon what the hiſtories and relations wrote by the Spaniards ſupply. There is indeed room to hope, that the Geography of thoſe countries will derive very great advantages from the reſidence, which the Meſſieurs of the Royal Academy of Sciences have made at Peru, independently of the principal object of their voyage.

Brazile

Brazille is hitherto known only upon the coaſt : however, many particular memoirs have enabled me to add to the Maps the diſtrict of the gold and diamond mines I had from a Portugueze Eccleſiaſtic, who had lived twelve years upon the river of Amazons, abundance of particularities along that river, throughout the whole extent of a country dependant on the crown of Portugal. The queſtion is not to enter into a greater detail, in ſo ſuccinct an explanation as I propoſed here, concerning what is to be the ſubject of the new general Maps.

Let us proceed to the parts of Europe. The better acquainted we are with France, the more exactneſs it requires, which renders the execution difficult. If ſome defect be pardonable to a French Geographer upon any other ſubject, it is not the ſame, in reſpect to the Map of France. Nothing ought to be wrong in that ; detail of the Sea-coaſts and courſes of rivers, exact diviſion of Provinces, choice and gradation of places or poſitions, according to their dignity and more or leſs conſiderable condition, denominations correct, and analogous to the ancient or primitive ones, as much as that is poſſible, and without departing from the actual manner of pronouncing them : all theſe conditions, which generally ſpeaking are required in every Geographical Work, are to be ſeverely exact in that of which we are to ſpeak. Whatever pains we take in the Map of a foreign Country, it is ſcarce poſſible, that there ſhould not be ſome parts in it leſs perfect than others ; but the Map of France admits no inequality of this kind. No country of the Earth has ſo perfect a Geographical Baſis as France. The Trigonometrical operations of the Royal Academy of Sciences, have traverſed the Kingdom from North to South, and from Eaſt to Weſt ; they have traced it throughout its whole circumference. The Geometrical Plan of the great Roads of the Kingdom, according to the deſign formed of it, joining with this, the ground work of a map muſt certainly reſult from them, much ſuperior to any thing extant of this kind. But, I muſt however obſerve, that there is ſtill a detail neceſſary for compleating the deſign of a Map ; and that amongſt the particular Maps of the Provinces of France hitherto publiſhed, there are many

defective enough, ſo as to make it not ſecure to borrow from them what a General Map requires, in which the Author ſhould propoſe as much exactneſs in the expreſſion of particulars, as in the diſpoſition of the principal points. I have by my enquiries obtained ſome helps in reſpect to different parts; and I ardently deſire, that ſuch perſons, as have it in their power to aſſiſt me in this view, may incline to do ſo from the concern it is natural to have for the perfection of the General Map of the Kingdom.

GERMANY is provided with a great number of particular Maps, and the collection I have made of them, is conſiderable. There are many Circles of the Empire, which in the whole or great part afford abundance of particulars. The United Provinces, which are included under the general name Germany, have, as to what concerns them, the moſt circumſtantial Particular Maps we know of. The difficulty in reſpect to Germany conſiſts leſs in the want of Maps, than in the manner of reconciling and combining them with each other, to compoſe an whole or body from them, of which the relations and proportions ſhould be of a well-grounded exactneſs. The Map of France ſupports itſelf upon a great number of points fixed by trigonometrical operations. Italy has for itſelf actual meaſures upon the great Roman ways; meaſures, which determine the uſe to be made of particular Maps, as to ſpaces. Not having advantages of this nature in reſpect to Germany, the application of a Geographer to a combination of all the pieces uſeful to that ſubject, muſt therefore make him ſelect, out of that infinite number of pieces ſuch, from which moſt propriety and harmony reſult for the compoſition of the whole. He may judge more or leſs favourably of that propriety, according to the agreement he finds it to have with ſome points eſtabliſhed by Aſtronomical obſervations. High Germany, ſituated between the Danube and the Alps, has the advantage of what concerns Lombardy, in the meaſure of extent from Weſt to Eaſt. For the reſt let us obſerve, that the Map of Germany indiſputably exceeds all others in point of difficulty, from the prodigious number of States and detached parts, which compoſe

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the Germanic Body, and of which the diſtinction requires much ſtudy and diſcuſſion.

THE more regard a Geographer has for the ancient Geography, the greater will be his attention for ITALY. The very ſtudy he ought to have beſtowed upon the writings and monuments of Antiquity, is a great reſource to him in the conſtruction of the Map of Italy. The ancient meaſures frequently ſupply Maps or particular pieces, in which the ſpaces are not always laid down with certainty and exactneſs. In order to be fully convinced of this, it ſuffices to have obſerved, that in proportion as Maps have been made with greater juſtneſs, the more generally they are found to agree with the meaſures of which we have juſt ſpoke. It would be ſuperfluous to expatiate more at large in reſpect to Italy, as it forms the matter of a particular and very ample Analyſis. The reaſons which have induced me to publiſh a work of this kind of Analyſis, and the choice, which I thought neceſſary to make of Italy for the ſubject of this Work, are the cauſe that the Map of Italy precedes all the reſt which I promiſe here.

SPAIN muſt have its place in the ſet of Maps of the principal parts of Europe. But, with great deſire to treat that ſubject, I am obliged to lament the ſcarcity of materials. Except a ſmall number of particular pieces, which we have from Spain itſelf, all that has hitherto been publiſhed concerning that continent, merits no confidence. Though I have collected many pieces, which are not found in the compoſition of any general Map of Spain, however Old Caſtille, Biſcay proper, the Aſturias, Leon and Eſtremadura, Cordova and Grenada, are parts, upon which I find myſelf very much unprovided. The reading of particular hiſtories, with which Spain is as well provided as it is defective in reſpect to Maps, is capable of ſupplying what is wanting upon ſome important points, that ſuffice in ſome meaſure for a general Map. Perhaps in ſolliciting informations upon the ſpot, I ſhall be ſo happy to acquire the inſtructions, of which I ſhall have moſt need. In general, the Map of Spain will coſt me abundance of labour. But though I may bring it to

ſome degree of perfection, I dare not flatter myſelf, that I ſhall give the ſame degree of exactneſs to that Map, as to the others of the ſame kind. It is probable, that the part of Portugal will not be the moſt defective in the Map of Spain. Many particular Maps, ſome of which I have in manuſcript, will be regulated by points fixed along the coaſt, and aſcertained as to the inland from local deſcriptions.

The Britiſh Iſlands preſent the contrary of what I could not help ſaying in reſpect to Spain. That Map is become one of the moſt perfect amongſt thoſe of the principal States of Europe, and at the ſame time one of the moſt eaſy. Particular Maps of all the Counties of England, and thoſe corrected at different times, Plans of ports and other principal places upon the coaſts, actual meaſures of all the roads, aſtronomical obſervations taken in different places ; all theſe unite in reſpect to England. Let us alſo obſerve, that being fixed by theſe meaſures and obſervations, there is no difficulty in reconciling that great number of particular Maps. Tho' we have not ſo many helps in reſpect to the Northern Part of Great-Britain, or the extent of Scotland ; however particular Maps of them are not wanting. What regards Ireland is founded upon an actual Survey. A great part of the manuſcript Maps of each Barony or Diſtrict of that Country, taken according to this Survey, being come to my hand, and being thereby informed of the exact meaſure of the Perch employed in it, ſupplies me with the means of treating that country with great exactneſs.

To the five principal parts of Europe, of which I have been ſpeaking, *viz.* France, Germany, Italy, Spain, and the Britiſh-Iſlands I add a ſixth, conſiſting of Hungary, the countries adjacent as far as the Black Sea, and Dalmatia, from the confines of Iſtria to Durazzo in Albania. The affairs of Europe, which intereſt us in the knowledge of thoſe countries, and the part they made of old in the Roman Empire, render this map equally neceſſary. Let us add to theſe motives, the capacity of treating this ſubject with ſome advantage. Muller's Hungary having already ſhewn us, how defective thoſe

which

which had preceded it was, requires itſelf very great corrections. Tranſilvania, Walachia, Moldavia, are objects entirely new in Geography. Cantelli and Coronelli have publiſhed ſeveral very circumſtantial parts of Dalmatia: but thoſe pieces require combining with each other, and that their true poſition be better determined. Servia more particularly known than before, will be followed by a Road to Conſtantinople, a Road taken upon the Spot, and which perfectly agrees with a great Roman Way, repeated in all the Itineraries come down to us from antiquity. Geography being entirely at a loſs in reſpect to Bulgaria, which will leave a void in this part of the Map, I ſhall place in it by way of amends, an extract of a very circumſtantial Map of the Sea of Marmora, and of the Helleſpont, or the Strait of the Dardanelles. I wiſh we may in time find means for enlarging ſuch a Map, with all the extent of country, that Greece has rendered ſo famous, and ſo important a point of knowledge.

THIS Map ſeems to lead us on to another, the object of which in my opinion, is very eſſential, and of great conſequence. The Reader will remember, that in ſpeaking of Aſia it has been obſerved, that what borders upon Europe required to be treated in particular. One of the moſt affecting parts of Geography conſiſting in the combination of the ancient with the modern, the relations of the one to the other affording a mutual aid to each, eſpecially with reſpect to remote regions, where actual and poſitive Geography is ſtill weak or next to nothing; it reſults from thence, that the countries of Aſia, which have made ſo great a figure in all times in Hiſtory, both before and after they were ſubjected to the Roman Empire, and which are ſtill frequented by our travellers, require a much larger diſplay, than in the Map that is to contain Aſia entire. If our materials are ſo deficient, that what compoſes Turkey in Europe cannot equal the manner of treating the other regions of this part of the World, we can at leaſt take in more ſpace here than in the general Map of Europe. To Turky in Aſia it is proper to add the parts of Perſia beſt known; that is thoſe ſituated upon the Caſpian Sea on one ſide, and the Perſian Gulf on the other. It is natural, that Egypt, going back as far as Turkiſh Nubia, ſhould have its place in the ſame piece.

Its object in general may be included under the title of Map of the LEVANT. But permit me to give in a few words an idea of the labour, which the execution of this Map requires. It is indiſpenſable, that what concerns the ancient Geography of the ſame countries, ſhould be as well known to the Geographer as its preſent State. In order to know its actual ſtate, he muſt not only conſult all the modern travellers; but if poſſible, get further lights from the people of the country, that chance may throw in his way; he muſt farther ſearch the Oriental Authors; and beſides thoſe, who have treated Geography in particular, not neglect the Hiſtorians. Upon ſuch a ſubject it muſt be very advantageous to have repeated his labour more than once.

WHAT modern Geography ſeems to have of moſt utility to us, may be included in the number and ſpecies of the Maps, of which we have been ſpeaking. For, tho' thoſe Maps may be deemed general, the extent given them admitting much more particularity than enters into the ordinary maps, they will anſwer many geographical occaſions; and few of theſe are to be excepted, but ſuch as regard military expeditions, or the neceſſity of a particular and topographical knowledge of ſome province or diſtrict of a country. The combination of the common extent of the parts of Europe, and the ſpace of two ſheets, have decided the Point of the Scale in our Maps. The degree of Latitude will be exactly 33 lines and one-third in the original deſigns, in which the printing will indeed make ſome ſmall reduction, as that is uſual. But the reſult will be on the whole, that this meaſure of the ſcale will give in ſurface, about three times as much as the meaſure of a degree upon the foot of from 19 to 20 lines, according to the Maps of Mr. De L'iſle. Thoſe made by Meſſrs. Sanſon in two ſheets, and in which the Degree is not quite two inches, have in conſequence but half the ſurface. This calculation will ſhew the particular proportion between the Maps propoſed here, and the preceding ones. There may be ſome advantages made of the relations by gradation in the Point of the different Maps. It is with this view, that all the parts of Europe being to be traced to the ſame point of the ſcale, the repreſentation of the Ro-

man World in two Maps, of which we ſhall ſpeak below, will be ſuited to half the length of the ſcale, which will give the greateſt facility in the combination of the parts of that World, with thoſe of Europe that anſwer to them. In the Map of Europe, the meaſure of the Scale will be half that of the foregoing, or the fourth of that of the parts of Europe. Aſia and Africa will be upon the foot of half in reſpect to Europe. The ſame will be obſerved in a general Map of the World known to the Ancients: the conformity of the Scale between this Map and the Maps of Aſia and Africa, and a ſimple reduction of half upon the Map of Europe, will render the compariſon of the old and new entirely eaſy, which is one of the greateſt concerns of Geography. It were to be wiſhed for the ſame end, that the Map of the Levant was at the ſame point of Scale as the Roman World: but that Map takes in too much extent of land not to oblige us to contract it a little more. Northern America requiring more ſpace than Southern, it will have the ſame meaſure of Scale as the Map of Europe.

It remains for us to ſpeak of what concerns ancient Geography. By confining, as is proper, the Map of the Orbis veteribus cognitus, to what the Ancients actually knew, that Map would be as ample as thoſe, which ſeveral Geographers have given ſeparately of ancient Europe, and alſo of Aſia and Africa, independantly of a more general one of the ancient World, which they have not been diſpenſed with from publiſhing. It ought to ſuffice, that the Map we propoſe may give ſatisfaction as to what the ancient Geography ſupplies beyond the bounds of the Roman World, for which Maps of a more particular kind are to be reſerved. In order to give a juſt and exact idea of the world known to the Ancients, in my opinion we could not do better, than to ſtop at the terms themſelves known to the Ancients, without repreſenting Aſia and Africa entirely. And if the bounds of the ancient world ought not to be carried ſo far as they have been hitherto, eſpecially in reſpect to Aſia, this repreſentation of Aſia in all its extent, appears ſtill more foreign to the purpoſe. The little map of the ancient world publiſhed in the Quarto Edition of Mr. Rollin, will give an idea of

that:

that actually in queſtion. If the bounds of ancient Aſia ſeem very much contracted in it, in compariſon with preceding Maps, proofs extracted from Hiſtory, as well as from Geography itſelf, authorize us in that reſpect.

THE ORBIS ROMANUS forms the moſt eſſential, and moſt abundant part of the ancient World. Its natural diviſion, cuſtomary in Maps, into Weſtern or *Occidental*, and Eaſtern or *Oriental* parts, is to be the diſtinction of two particular pieces. The Ionian Sea between Italy and Greece, and then a line drawn from the Adriatic Sea to the Danube, towards its confluence with the Save, form the ſeparation of thoſe two parts. In the one are contained Italy, Africa, Spain, Gaul, Great-Britain, and the Countries ſituated between the Upper-Danube and the Adriatic Sea: in the other, Greece, and all the region extending to the Lower Danube, Aſia Minor, Syria and Meſopotamia, Egypt and Lybia. The repetition only of theſe different countries calls to mind their ancient renown, and how important the knowledge of each of them is to thoſe, who ſtudy antiquity. The Maps of the Roman Empire hitherto publiſhed, tho' divided into two parts, are however ſo general, that it has been abſolutely neceſſary to annex particular Maps to them, which more important and familiar circumſtances frequently give occaſion to conſult. Now, ſuch is the Scale to which we carry the two parts of the Roman World, that it is very near equal to that, which Meſſrs. Sanſon, who have beſtowed more pains upon the ancient Geography than any of the Moderns, uſe in their particular Maps of the countries, that formed the Provinces of the Empire. Thus, two Maps of this meaſure are capable of containing the whole ſubject of ancient Geography. I ſee no exception to this, but in regard to a ſmall part of Italy, to Greece and Paleſtine. And if thoſe countries are ſuſceptible of a greater detail than the reſt, they ought not however to augment the ſize of a much more general Map, and the leſs as the occaſion for ſuch detail may be ſupplied in a manner we ſhall preſently indicate.

IT is to be obſerved, that the particular Maps of Gaul, Italy, Greece, *&c.* are to contain all that Antiquity ſupplies in reſpect to the

the knowledge of thoſe different countries, without being confined to an Epocha or to one Age more than other. The Map of Gaul includes cities, that derive their names from Auguſta, amongſt thoſe whoſe denomination ſeems more ancient or purely Celtic. In the Map of Greece, at the ſame time, that we look for the places made famous by Homer, and which however had eſcaped the enquiries of the learned of leſs remote ages, as Strabo informs us, we ſhould have cauſe to except that a Demetrias, Antigonia, Caſſandria, Theſſalonica, names eſtabliſhed by the Macedonian Princes are not ſeen in it. I add, that we are obliged to a Geographer, whoſe enquires into the Eaſt, and concerning the frontiers of Armenia and Meſopotamia, have induced him to conſult the Byzantine Authors, and even to borrow from them ſome local circumſtances, as thoſe authors deſcribe the countries more particularly, than had been done before them. In a word, the particular Maps of this kind are deemed the repoſitory of what relates to the ancient World in general. Now, as our Map of the Roman World is to ſupply the place of thoſe Maps, it ought not to be thought ſtrange, that it ſhould not be confined to what relates more to one age than another.

I DO not deny, but that Maps, which ſhould be adapted to principal Epochas, or ſingular points of Hiſtory, or the deſcriptions of ſome authors in particular, would have their utility, and afford pleaſure; eſpecially to ſuch as deſire at a ſingle view to ſee in Maps the Changes, which not only the revolutions related in hiſtory, but the progreſſion of diſcoveries, have introduced in Geography. But, regard muſt be had, that, as the eſſential view of the ſet of Maps in queſtion here is to include a great fund of Geography, in a ſmall number of capital pieces, Maps reduced to the point before-mentioned, do not enter into this deſign. That would be ſacrificing the very foundation of the thing to a particular method. And indeed, could the execution of a work, conformable to that method, be undertaken with any appearance of ſucceſs, without the previous foundation of an univerſal combination of all that enters into the Plan of the Antient Geography?

THOUGH the Roman World becomes very ample in our two Maps, I have however obſerved, that there were ſome parts of it, in which a more abundant detail than any where elſe, might be included. I have inſtanced in this reſpect, a part of Italy, Greece and Paleſtine. It is natural, that as the Sacred Hiſtory, and the two principal branches of the Preface, turn particularly upon theſe Subjects, the ancient Geographer ſhould abound more with particulars in reſpect to them than any other part. *Greece* requiring, that the whole Ægean Sea, and the coaſt of Aſia from the Boſphorus to Rhodes incluſively, ſhould be added to it, takes up more ſpace than the two other pieces together. But it not being my deſign to uſe a more ample meaſure of Scale for this country, than for the principal ones of Europe in their actual and well known ſtate; and the rather becauſe I do not preſume, that we have ſufficient lights to admit it; the extent of Greece, and what accompanies it, does not ſuffice to fill up that of our Maps. In conſequence, we may add to it in ſeparate ſquares; on the one ſide the part of *Italy*, which conſiſts principally in the country about Rome; on the other, *Paleſtine*, from Sidon to the frontier of Egypt. To the Map intended to repreſent theſe different objects more at large than in that of the Roman World, a more proper general title cannot be given than that of SUPPLEMENT to that Map. I ſhall not enter here into any particulars concerning the part of Italy, of which the plan will be laid down upon an equal and common foot with that of actual and modern Italy. Greece and Paleſtine require ſome explanation. Of the Geographers, who have given us Maps of Greece, none ſeem to me to have ſtudied Antiquity better than Nicholas Sanſon: but he may be ſaid to have been utterly a ſtranger to poſitive Geography. I have had the good fortune to collect Maps, taken moſt of them in Manuſcript, of the circumference of the coaſts. Except ſome pieces of this kind, and what Wheeler has done upon Attica, Bœotia, and Phocis; the continent of Greece, that country ſo famous, and with which ſo many facts make us deſire to be well acquainted, is ſtill much unknown, and without any actual deſcription taken upon the ſpot. This is the reaſon, that the particular piece, which we

meditate upon Greece, and which being more ample than the Roman World, would require more extended lights, will in many places, and eſpecially in Macedonia, ſupply us with nothing beyond the coaſts. As to Paleſtine, a Map, in which only the points and circumſtances were to be admitted, that we might flatter ourſelves with fixing with ſome ſolidity, will always be very different from thoſe Maps, whoſe Authors have pretended not to omit any of the minuteſt circumſtances of place mentioned in the holy Scriptures. And becauſe the Greek and Roman monuments contribute very much to what ſeems more exactly determined in the detail, the Map of Paleſtine will certainly be better adapted to the time of the ſecond temple than that of the firſt.

I HAVE only one piece to propoſe, for rendering our body of general Maps compleat. There is too great an interval between what is called antient Geography and the preſent State, for the tranſition from one to the other to be immediate. The face of our continent changed by the fall of the Roman Empire, ought to be conſidered in a middle State, that makes way for what it actually is at preſent. Our intereſt in this reſpect is confined particularly to the countries of the WEST; France, Germany, Italy, Spain, and Great-Britain. It is impoſſible in a general Map, to ſpecify all that has been ſaid of *Pagus (diſtinct Canton)* in France and Germany. France alone would require more than one Map, to anſwer ſuch a detail. But, without employing a greater Scale than that which will be uſed for the Roman World, the principal circumſtances of the Geography of the MIDDLE AGE may be expreſſed. The conformity of the Scale between the Map, which will be drawn for this ſubject, and that of the Weſtern part of the Roman World, will make the compariſon between the one and the other entirely clear. It is deſigned, that the Map in queſtion ſhall be adapted to the reading of original Hiſtorians from the ſixth to the twelfth Century. A Map of France, not limited to a particular Epocha, will admit, with the changes that the eſtabliſhment of the French Monarchy has introduced in Gaul, ſome circumſtances of country and place, of which there is no mention, till after many ages ſince that eſtabliſhment. If

the Map of the Middle-age would admit nothing anterior to the ninth or tenth Century, moſt of the cities firſt founded in Germany, could have no part in it. Italy ſubjected to the French Princes, may retain ſome trace of its Lombard and Greek State. F. Beretti has not thought thoſe matters incompatible in his Map of Italy *Medii-ævi*, as he adds in the title, Græco-Langobardico-Francici. In Spain, beſides the changes, occaſioned by the almoſt univerſal invaſion of the Moors, and concerning which it is neceſſary to conſult the deſcriptions of that country by the Arabians; it is alſo proper to relate the firſt ſettlements of the Chriſtian Princes, who eſcaped the yoke of thoſe Infidels; ſettlements, which in proceſs of time, gave being to the different States, into which all Spain was divided. In conſequence, this ſubject makes it neceſſary to unite the chronicles of Spain with the Arabian Authors. Tho' the Anglo-Saxon Heptarchy had been formed into one Monarchy, when William the Conqueror invaded England, or in the eleventh Century, the diviſion of that country into ſeven kingdoms, independantly of what the Welſh, or ancient Britons, retained, is the principal ſubject of the Map of the Middle-Age.

After having ſpoke of each of the different pieces, that are to compoſe the new body of Geographical Maps, a ſimple enumeration of them will place the whole in one view.

I. The Map of the World.
II. Europe.
III. Aſia.
IV. Africa.
V. Northern America.
VI. Southern America.
VII. France.
VIII. Germany.
IX. Italy.
X. Spain.
XI. The Britiſh Iſlands.
XII. Hungary and Dalmatia.

XIII. The Levant.
XIV. *Orbis veteribus cognitus.*
XV. *Orbis Romani pars Occidentalis.*
XVI. ——————— *pars Orientalis.*
XVII. *Supplementum Orbi Romano ; Italiæ celebriorem partem, Græciam, & Palæſtinam, fuſius exhibens.*
XVIII. *Occidentis Tabula, ad Medium-ævum exacta.*

THIS Plan, and the number of theſe Maps, have been approved by HIS MOST SERENE HIGHNESS THE DUKE OF ORLEANS. If the execution of it be of any advantage to the Public, they will be obliged for it to that great Prince. For the reſt, I propoſe no order to myſelf in the publication of theſe Parts. The firſt ready without regard to the diſpoſition of the Subjects, will come out firſt. It is even eſſential, that what is to be treated more particularly, ſhould precede what is more general in the Work ; that the parts of Europe ſhould precede Europe itſelf ; and that the Map of the World ſhould depend upon its proper parts. It is far from being well-judged to preſs a Geographer upon executing General Pieces, as the good of the thing requires, that ſhould be preciſely where he ſhould conclude. The motive of intereſt will not induce an haſte pernicious to the Work in the execution of it. I ſhall only obſerve, that the pieces firſt done, being to contribute in ſome part to thoſe that are to follow, the latter in conſequence will go on the faſter. It is to be expected, that the new Maps may include ſome Changes of the preceding ones ; and tho' my deſign be not to compoſe upon each of thoſe I undertake as ample an Analyſis as that concerning Italy, I however perceive how uſeful it may be to the Publick, and even advantageous to Geography, that thoſe changes ſhould ſeem founded in reaſon. This is what determines, and in ſome ſenſe makes it a law to me, to draw up a ſummary account in writing of the principal points relating to the conſtruction of each Map. A Memoir relating to the Map will appear with each of them. And theſe ſeveral Memoirs being printed in the ſame form as the Analyſis of Italy, the whole will compoſe in ſeveral volumes, a body of

Geographical Diſcuſſions ; a Work not in being, and which the clearing up of the ſtrong and weak in the actual ſtate of Geography, may render very uſeful. Theſe Writings will give me opportunity to make my publick acknowledgments to ſuch perſons, as ſhall pleaſe to aſſiſt me with their lights, and what they have in hand, that may contribute to the perfection of a work of ſuch extent, and for the merit and ſucceſs of which, the Publick ought not to be indifferent.

THE

THE GEOGRAPHICAL ANALYSIS OF *ITALY.*

IN comparing Geographers with each other, to ſpeak only of thoſe, who have a ſtrict title to that name, and who are really Authors, what is moſt remarkable, is a great diverſity between their Maps. The Public is little informed of the reaſons more or leſs ſolid, that have occaſioned this, and to underſtand it rightly, it is almoſt neceſſary to become a Geographer. Every body knows, that Mr. De L'Iſle's Maps differ from thoſe of Meſſrs. Sanſon, by the reduction of the Itinerary Meaſures to a more exact computation; and becauſe the latter either preceded the Aſtronomical determinations, that have reformed the Longitude, or have not paid a ſufficient regard to them. But this ſingle conſideration cannot be extended to, or anſwer equally, an infinity of particular circumſtances of different kinds. However, the diſagreement in works of the ſame kind, gives the Publick a right to doubt the merit of ſuch works, and to ſuſpend their confidence in them. A Geographer, who ſhall make new Changes, if his reaſons are not known, and he does not make them publick, will hazard being ſuſpected of ſingularity, and of intending to diſtinguiſh himſelf in that view. Maps however multiply, and tho' they ſhould even acquire ſome perfection, it ſeems that for want of founding it by the diſcuſſion of the facts and circumſtances, upon which that perfection may depend,

pend, Geography in itſelf does not aſſume a more fixed ſtate and its progreſs remains undecided.

The Geographers for their own intereſt, and to eſtabliſh their credit (if I may uſe the expreſſion) ought not to omit to give the World Analyſes or Explanations of the Works they publiſh; and their Maps, in order to their being well received in proportion to the merit they might have, require to be ſupported by ſome written diſcuſſion. The reducing Maps to an Analyſis, and certain proofs, would probably render them leſs common; but it is evident, that Geography itſelf would derive lights from thence, which are not given it. The diſtinction being made between what there ſhould be of more or leſs poſitive, we ſhould know better from what point to ſet out for the improvement and perfection of new works. The Geographer, who ſhould ſhew how far he has been able to carry his inquiries, and to put them in execution, will be reſponſible for his works only in proportion to the means he had for well compoſing them. An infinity of combinations may enter into the compoſition of a Map, which are obvious only in following the track itſelf and proceſs of Geography. This labour, in which the fundamental part of the Work conſiſts, is not to be done by gueſs; and if a Map happens to be diſpoſed with ſome degree of taſte, with clearneſs, and by good luck has been well executed by the Engraver, the proſpect, or look of it becomes its principal advantage; and the Author ſcarce hears it judged of but in that trivial reſpect.

Whilst I ſpeak this, it is not becauſe I am not convinced, that there are amongſt the Learned thoſe, who from a particular taſte for Geography, and from having ſtudied it thoroughly, are highly capable of judging of a Map in all reſpects. But theſe are not the majority of the Learned, and the thing in queſtion requires a detail, and particular kind of ſtudy, which it would be improper to make the eſſential duty of every one who cultivates the Sciences. There are enquiries neceſſary and peculiar to works of Geography, which peculiarly regard only the Geographer, whom ſome object of preference engroſſes entirely.

I HAVE often obſerved; it has been matter of wonder that a Geographer ſhould again employ himſelf upon a Map of Greece or Italy. And indeed, one would ſcarce believe, that upon ſubjects of ſuch conſequence, and ſo often repeated, there ſhould be any thing more to do than to copy what the Authors of greateſt reputation have already done. As to Italy in particular, the knowledge of which is ſo near at hand and ſo familiar, one would conceive, that there could be little or nothing wanting, but the addition of ſome few ſtrokes of improvement in ſome places. And perhaps I ſhould have been of the ſame opinion as well as others, if I had beſtowed leſs ſtudy and pains upon the ſubject.

BUT, if in ſuch a ſubject, the author of a new Map departs, conſiderably from preceding Maps, he becomes accountable to the Public for his reaſons for doing ſo: perhaps his ſelf-love will have reaſon to fear, that ſufficient attention ſhould not be had to the fruits of his labour, and which he conſiders as amendments. A ſuccinct account, which may be confined to the principal circumſtances, ſuffices for enabling the Publick to judge, and though a Geographer ſhould thereby only give his proofs in reſpect to ſome works in particular, what he ſhould produce in general, would derive ſome advantage from it.

THE labour of Geography may be reduced to two principal heads. The firſt, which in my opinion is the greateſt art of it, and what is moſt difficult in the compoſition of Maps, conſiſts in the combination of diſtances, and in finding as near as poſſible, the true meaſure of extent or ſituation, that agrees with each country repreſented in thoſe Maps. And every body muſt admit, that delicacy in that point is of extreme conſequence. Too much extent cannot be given to one country, without crowding in proportion and contracting improperly that which follows it. He whoſe only view ſhould be confined to a ſingle country, might have no great attention to that inconvenience, or even not perceive it. But the caſe is not the ſame with a Geographer, who is obliged to preſerve an agreement and

kind of harmony in the different parts of a great continent, to each of which he muſt have regard in particular. In proportion as Geography has improved the amendments which have been made in it, have frequently been more ſenſible by the changes introduced in extent of country, than any other way.

The ſecond head turns upon the expreſſion of the local. What is to enter into general Maps, is uſually borrowed from the particular Maps of each Province or Diſtrict, that make part of a great country, which have either been drawn upon the ſpot, or are taken as near as poſſible upon that foot. But, there are beſides an infinity of ſubjects in Geography, and thoſe very important, eſpecially in reſpect to Hiſtory, in which this detail almoſt every where reſults and concludes only from the combinations and manner of uſing certain deſcriptions or narrations diſperſed in the writings of Hiſtorians, and Travellers. It is in this caſe, that the detail of Geography requires very great reſearches, and abundance of reading and ſtudy; and it is evident, that the diſcuſſion of ſuch a detail would be much more prolix, than if the queſtion were only to cite and compare the particular Maps, that might ſupply it.

Though I have not neglected the expreſſion of the local, as far as it has been in my power to know it, and to render it ſenſible in ſome Maps, which are however rather eſſays than pieces finiſhed as I could wiſh; however I confeſs, that the meaſure or extent of ſpaces, and their combination, have often employed my greateſt care. I have always been convinced, that exactneſs in this part of Geography could not be too much endeavoured, and that it requires a particular application in thoſe, who devote themſelves to the progreſs of this uſeful and poſitive ſcience. The conſequences may be judged from the Analyſis of Italy, which I now undertake to give. It will turn almoſt entirely upon the diſcuſſion of ſpaces: I ſhall not enter into the detail of the local, which depends upon the uſe of particular and Topographical Maps, of which I ſhall cite a great number of the beſt come to my knowledge.

In my deſign of giving an account of the compoſition of a Map, ſeveral motives determined my choice of Italy. Firſt, the merit and importance of the ſubject: Secondly, the ſpecies and quantity of the materials proper for treating it, and from which there however ſeemed to reſult a work new in many reſpects, which might ſurprize more in reſpect to a country like Italy than to many others. Beſides which, I have applied myſelf wholly to this ſubject at different times; and the Public have even ſeen ſome fruits of this reiterated labour in the Roman Hiſtory of Mr. Rollin, in which I have twice repeated a Map of Italy Proper, that is, excluſively of Lombardy and Ciſalpine Gaul. The ſecond of theſe two Maps was compoſed without any regard to the firſt; and that had even been preceded by a kind of ſketch of all Italy, drawn from my private inſtruction. It is perhaps to little or no purpoſe to mention my particular Map of Ciſalpine Gaul, ſince inſerted in the ſame Hiſtory, becauſe as it was compoſed almoſt at the ſame time, that I applied myſelf to this diſcuſſion, it cannot be conſidered as a diſtinct and particular work, tho' there are ſome points which have been retouched in that piece. Now, this kind of repetitions ſeems very advantageous to me: for there are faults which do not become ſenſible, till after trial made, and which are not well corrected without treating a ſubject a-new. A Geographer ſhould by no means have the leaſt repugnance for differing from himſelf, and for changing in a ſecond and third Map, what he has done in the firſt. Theſe changes, are ſo far from deſerving to hurt an Author, that in my opinion they only indicate the renewal of his ſtudy and application. In this diſcuſſion of Italy, the two Maps, of which I have juſt ſpoke, are, to uſe the expreſſion, as nothing to me, tho' publiſh'd; and there will be ſome places in it, wherein I have not entirely conformed either to the one or the other. It will only appear, that I depart much leſs from them, than from preceding Maps.

If Geography ſtill receives great helps from Antiquity, it muſt be owned, that it is principally from Italy. Beſides that the great Roman Ways, frequently mentioned in Hiſtory under the name of

the perſons, who cauſed them to be made, frequently recur in the Itineraries with the ſame diſtinction of name, the ancient Authors, as well Hiſtorians as Geographers, give us amongſt other local circumſtances, meaſures of diſtance, which are found upon enquiry to be very exact. When any doubt has aroſe concerning diſtances, that are ſet down, not only in the Itineraries, but in ſome of the ancient writers, it has almoſt always been either for want of knowing the meaſures employed in thoſe diſtances, or becauſe a proper uſe has not been made of them. Lucas Holſtenius has obſerved more than once, which Cluvier has erroneouſly objected to, that the number of the miles in the Roman Itineraries did not anſwer the manner now uſed in computing the ſame diſtances. Strabo gives us abundance of diſtances in *Stadia*, which would certainly not appear reconcileable upon the foot of the ordinary Stadia, or of thoſe commonly known.

But, if Cluvier had always had regard to the diſtinction, that muſt be made between the Roman Mile and the common Mile actually in uſe, he would have found as well as Holſtenius, that the numbers of the ancient Miles agree exactly with the modern, according to the meaſure proper to both ; in conſequence of which, the latter in the eſtimation made of them, generally enough exceed the former about a fifth in extent, and decreaſe as much in the numerary account.

As to the Stadia, of which I have juſt ſaid Strabo makes uſe, and which are not peculiar to that celebrated Geographer, nor to Italy alone, it is very true, that their proper meaſure had not been given before the Tract upon Itinerary Meaſures publiſhed by me. But that meaſure being once known, and exactly fixed by the reduction of a fifth upon the Olympic or ordinary Stadium, if we apply to known and determined ſpaces the diſtances given in Stadia of the kind in queſtion, thoſe diſtances become right, or agree perfectly well. I have produced ſeveral examples of this in the Treatiſe juſt mentioned. Every body knows that eight common Stadia and a Roman Mile exactly agree ; and as there are diſtances, which be-

ing ſet down in Miles and Stadia, give ten Stadia for one Mile, it muſt be granted, that thoſe Stadia are of a different kind from the common Stadia, and are in the proportion indicated. This meaſure of the Stadium thus laid down, exactly agrees with the extent of the great Circus of Rome, which is a ſpace, that ſtill exiſts, and is to be traced by its limits, of which Diodorus and Pliny have given us the length in Stadia. And laſtly in reducing to this particular meaſure of the Stadium the elementary meaſure of the Natural Foot, which was uſed in the compoſition of the Stadium, as Aulus Gellius expreſsly tells us, I have ſhewn, that this proportion of the Foot agreed with the utmoſt exactneſs with the extent of the Stadium of which we are ſpeaking.

The meaſure of the Roman Mile, with which the other itinerary meaſures evidently agree, ſerving in conſequence to verify them, I applied myſelf to define and fix it as near as poſſible. I ſought, not only the particular meaſure of the Roman Foot and of the *Palma*, two different elements of the Mile, but alſo the actual meaſures of the Mile itſelf, as given by the interval of the Milliary Columns ſtill in being, and in their places. Theſe different methods of proceeding differed only in about a ſpace of ten foot in the total amount of a Mile, which ought not to ſeem conſiderable ; and the mean proportional was at 755 Toiſes and an half. This is the recapitulation of a diſcuſſion of particulars of conſiderable extent, which I ſhall not repeat here, as the Reader may have recourſe to the Treatiſe itſelf, which I have publiſhed. The Roman Surveyors ſtill uſe a Mile little different, which I ſhould not have even diſtinguiſhed from the ancient, without a ſcrupulous enquiry. This actual Mile, in effect of the particular meaſures that compoſe it, amounts to 764 Toiſes. It is in conſequence rather more than leſs in reſpect to the ancient Mile; and it ſometimes happens, that the diſtinction, which ſubſiſts between them, manifeſts itſelf evidently.

It is uſually without examination, and (permit me to ſay it) ſolely by the vague and indeterminate manner we now a-days compute diſtances, that the itinerary meaſures we have from the Ancients

are

are judged. But it is certain, that the Ancients were exact in them. It appears eſpecially, that the Geographers ſtudied them in a particular manner, as not having ſo much exactneſs from the help of Aſtronomy as we have in theſe times; and the practice of Trigonometrical operations upon the ſpot not ſeeming to be eſtabliſhed, their Geography was almoſt ſolely founded upon the combination of diſtances, as is evident from their Writings, to trace them from Scylax down to Agathemer and Marcian of Heraclea. The meaſures of ſpace, which Agrippa, ſon-in-law of Auguſtus, had cauſed to be taken in the Provinces of the Empire, ſome of which have been tranſmitted down to us by Pliny, probably ſerved as the baſis in the repreſentation of the Roman World, which was drawn at Rome upon a Portico, in form of a Geographical Map. The Greeks in uſing the meaſure of the Stadium, which in its greateſt extent was only the twenty-fifth or thirtieth part of our common league, could fix diſtances in a much more exact manner than we, who in reckoning by leagues, uſually content ourſelves with denominating them great or ſmall. It is proper to obſerve, as a proof of the exactneſs of the Ancients, that to a great ſum of Stadia, they ſometimes add a ſupplement of tenths, and even a fraction of a tenth. In reſpect to the great Roman Ways, it ſufficed for knowing the diſtance of places, to reckon the Milliary Pillars, the ſpaces between which were regulated by a fixed and determinate meaſure.

In confining ourſelves to what the moſt ſcrupulous exactneſs requires, two objections indeed ariſe here. The firſt is, that in the Roman Itineraries (even ſuppoſing the numbers of diſtances in them every where correct and faultleſs) thoſe numbers always give compleat Miles, without fractions of more or leſs; tho' it is not probable, that the diſtances of Cities do always agree with the expreſs term of the meaſure of Miles. In the ſecond place, will be propoſed as a difficulty, the uncertainty there may be in reſpect to the point or place, from whence thoſe diſtances were reckoned; whether it was from the center of the cities or their end or extremity, from which thoſe meaſures were taken.

I SHALL anſwer the firſt objection ; that in a long ſpace, compoſed of a great number of particular diſtances, it is held, that what may be leſs in ſome may be made up by the more in others: for it is in that manner the more and leſs are diſtributed. Thoſe, who work upon the ſpot, and even make uſe of good inſtruments with ſuitable ability, are obliged to own, that in a long ſeries of operations a compenſation of this very kind occurs, by which what may be wanting of ſtrict exactneſs in each particular operation, may be corrected. And beſides, in the detail of this diſcuſſion how minute do places and fractions of miles become, in compariſon with the great defects in point of ſpace that we find in the Maps hitherto publiſhed of Italy. I will even obſerve, that we are not always deſtitute of a kind of indications in reſpect to the fractions of Miles in the combination of the ancient Itineraries. When we have ſtudied them, and they have been frequently compared with the local itſelf, we perceive, that the difference of a mile in two Itineraries, commonly depends only upon a fraction omitted in the one, and which ſeemed conſiderable enough to be uſed in the other for a Mile itſelf. In a ſeries of many diſtances, we often find, that theſe numbers of more or leſs upon particular diſtances, are made up in the total. And as to what regards us in particular, with reſpect to the uſe of theſe ancient monuments, and the diſtances laid down in them, it appears evidently from an infinity of places in this work, that by taking, frequently in a right line, or almoſt without reduction, meaſures that however relate to ways, we ſave thereby many omiſſions of fractions, in judging them rather redundant than otherwiſe.

As to the ſecond objection, I am convinced, that in reſpect to the principal Cities, and ſuch as ruled over a diſtrict, the diſtances were computed not only from thoſe Cities, and upon the Milliary Pillars were marked in numbers I. II. III. &c. but alſo, that theſe diſtances were taken from the centre of the cities, and not from their gates. This practice was the wiſer, as it muſt be concluded, that ſuch a principle of diſtances is leſs ſubject to viciſſitude, or change, than the encloſures or walls of places. Auguſtus, who took upon himſelf the reparation of the great Ways about Rome, cauſed a gilt

Column

Column to be ſet up in the *Forum Romanum*, that is, in the midſt of the City, and at the foot of the Capitol. *Milliarium Aureum in capite Fori Romani ſtatutum*, ſays Pliny ; from which the diſtances began to be reckoned. For to what other end could it have been erected or denominated *Milliarium?* And can it be denied, that it was with relation to the effect of the ſame end, Plutarch poſitively tells us in the life of Galba, that all the great Ways or Cauſeys of Italy terminated, τελευτᾶσιν, at that *Milliarium*. Independantly of this fact, and of the conſequences it naturally induces, I have found by ſeveral meaſures of diſtance, taken from the Survey of the Agro-Romano, that theſe meaſures can agree only with the centre of Rome; and that none of them agree with its gates. In treating the Itinerary Meaſures, I have entered into ſome detail upon theſe meaſures of diſtance ; and I might even add upon thoſe mentioned in this Treatiſe ; for indeed many places of this Analyſis, in which the neighbourhood of Rome occurs, will make the thing ſtill more evident.

It is not in reſpect to Rome only, that it ſeems clear the diſtances are to be referred to the ſame place. We find about Milan ten or twelve denominations of place, by which the diſtance of places in reſpect to that City is ſhewn, according as that diſtance was reckoned upon ſeveral great Ways leading from it, and relatively to the Numero of the Columns or Milliary Stones placed upon thoſe Ways. Thoſe denominations ſubſiſting, tho' thoſe Columns have periſhed, extend as far as Decimo, or the *Decimum Milliare* ; and not only their diſtance in regard to Milan, taken according to the exact meaſure of the Roman Mile, can ſolely agree with the centre of the City and not with its gate ; but it appeared to me, that in order to find ſome analogy between the particular diſtances of each of thoſe places, that are ſituated upon different Highways, thoſe diſtances can have no other common point of beginning than the ſame centre. For, tho' there might be ſome ſmall variation between the meaſures, that relate to each place in particular, it was not ſuch or ſo general as would have reſulted from the diſproportion betwee a Quarto or Quinto, and a Decimo.

But, what follows will undoubtedly decide the matter. The queſtion is the diſtance of two points or places ſituated upon oppoſite High-ways, between which the City of Milan lies on the ſame line with thoſe points. There is a *Seſto* upon the road of Lodi-vecchio or Laus-Pompeja, and on this ſide of Melegnano, which place the French call Marignan ; and in carrying on the line from this *Seſto* thro' Milan, beyond that City there is a Quarto, that lies upon the road which goes to Vareza. In like manner, to the Decimo that is between Milan and Pavia, and of which mention is made in the Itinerary of Jeruſalem, anſwers a Seſto upon the road on the contrary ſide from Milan, and which thro' Monza leads to Lecco. By the ſurvey, that has been taken of the Milaneze, and which has been communicated to me, as will be ſeen in the ſequel, the firſt diſtance is nine Miles and about a ſixth of Milan, and the ſecond 14 of the ſame Miles, deducting a tenth. As there is a perfect proportion between theſe two meaſures, the Reader muſt conclude, that we naturally produce them as we find them, and without any modification whatſoever. But, on the like occaſion, it is neceſſary, that regard be had to a mean proportional. The Mile of Milan is eſtimated at 849 Toiſes at moſt, according to the elements peculiar to it, of which we ſhall treat in the detail of this work : conſequently the above-mentioned two meaſures produce 19,580 Toiſes or thereabouts. Now, the 26 Roman Miles, namely ten on one ſide and ſixteen on the other, which in our hypotheſis are equal to thoſe meaſures, amount exactly to 19,643 Toiſes. In theſe two calculations, which differ only 60 and ſome odd Toiſes, that make but the twelfth of a Roman Mile, deducting only a 312th from the total, the diameter of the city of Milan is abſorbed. Therefore, the numbered diſtances from Mile to Mile round Milan took in that diameter, which muſt have been divided between two Highways, that ran oppoſitely to each other. Conſequently, thoſe diſtances were reckoned from the centre of the City rather than from its gates. And tho' the revolutions time has produced, the accidents which have happened to the City of Milan, its almoſt total deſtruction by the Emperor Frederick Barbaroſſa, who ſpared only the Churches in 1163, rendered the place, that formed the centre of Milan under

the Roman power, dubious, that uncertainty would have no bad conſequence with reſpect to the foundation of our queſtion.

WHAT ſuch a combination of meaſure has of deciſive, may be uſed in reſpect to Rome itſelf. There is a Quinto ſubſiſting upon the Flaminian Way, on the North of Rome; and a Decimo on the ancient Way to *Laurentum* towards the South. The diſtance between thoſe two places, including the ſpace croſs all Rome, amounts to no more than 14 Roman Miles, and an half, according to the Scale of the Survey of the Agro-Romano. This meaſure agrees, not with a direct line (for that would be ſhorter ſtill) but the courſe itſelf, and turning of the Roads, which are expreſſed, as we muſt ſuppoſe, in a ſurvey. And though the modern Roman Mile is a 90th more than the ancient, and I am beſides forced to ſtretch the ſcale of the Survey a little, to avoid contracting the ſpace in the neighbourhood of Rome; however it cannot be imagined, that the ſpace croſs, which takes up more than 2600 Roman paces of the meaſure in queſtion, could be ſubſtracted and cut off; ſo that the 15 Miles could be ſuppoſed to be contained in a meaſure, which would thereby be reduced to about 12.

IF the diſtances were computed from the centre of Cities, it is objected, that in a City ſo large as Rome, the *primus Lapis* being within the bounds of the place, Hiſtorians could not ſay *ad primum ab urbe lapidem*. But, this objection falls entirely to the ground, when we obſerve, that in this caſe *Lapis & Milliare ſunt unum & idem*; that conſequently the expreſſion in queſtion ſignifies only about a Mile from the walls or end of Rome. There is even a paſſage, where that expreſſion cannot be underſtood in a preciſe and abſolute manner of the place, where a ſtone or milliary pillar ſtood. The ſame expreſſion might beſides be uſed in reſpect to events prior to the time, when the diſtances from Mile to Mile were marked on ſtones upon the great Roman Ways. Plutarch tells us, that it was Cajus Gracchus, who in the ſeventh Century of Rome, was the firſt that promoted that eſtabliſhment, which may be fixed at the 631ſt year of Varro's epocha. It is apparently in the ſenſe I obſerve the term *Lapis* ſhould be taken, that Pliny the younger is to be underſtood

underſtood in one of his letters, that the tomb of Pallas, the Emperor Claudius's freedman, was placed upon the Way Tiburtina *intra primum Lapidem:* for otherwiſe we muſt ſuppoſe this interment a breach of the laws, which did not admit burying within the walls of the City. This paſſage of Pliny is one of the Arguments, that the Abbé Revillas, Profeſſor of Mathematicks in the College of Sapientia at Rome, and whoſe learning and talents I honour, employs in his diſſertation upon the *Milliarium Aureum*, to prove that the diſtances were not reckoned from that pillar.

THE opinion of that learned man, in which Holſtenius and Fabretti agree with him, is founded principally as follows. The milliary pillar of number I. dug up near the Appian Way in 1584, and now placed in the Capitol with ornaments added, of which the Abbé Revillas diveſts it with great diſcernment and critical knowledge, was too diſtant from the Centre of Rome in the place where it was found, for the ſpace of the firſt Mile to agree with the ſituation of the gilt Milliarum in the *Forum Romanum*. But, a pillar buried in rubbiſh, as we may judge from what is ſaid of this, and which is not ſtanding, cannot decide the queſtion, eſpecially when there are facts that oppoſe it. Independently of thoſe facts, it might be doubted whether the pillar in ſuch a ſituation was in its right place, without having been removed from that to another: in the caſe where the facts are againſt it, we muſt admit, that there is more than doubt and conjecture upon this ſubject. It appears ſo much the better decided, that this pillar was diſplaced, as it is difficult to adapt the place, where it was found, to the hypotheſis itſelf, according to which the diſtance ſhould be taken from the Gate of Rome. We learn from the Abbé Revillas, that the place at which the Pillar was found, was only about 530 Roman Palms from the Gate of St. Sebaſtian, and as he computes at the ſame time the length of the ancient Roman Mile at 6604 of thoſe Palms, it follows, that to a twelfth and an half, or almoſt two twenty-fifths, the ſpace of a Mile, which ſhould be indicated by the poſition of the Pillar, ought to be taken incluſively with the extent of the City. According to the beſt plan of Rome come to my knowledge, publiſhed by Roſſi in the Pontificate of Innocent XII. the diſtance from the Gate of St.

Sebaſtian (which probably anſwers to the Porta Capena in Aurelian's walls) to the Capitol, and in taking its end conformably to the ſituation of the *Forum Romanum*, is about 1400 Roman paces. It is not neceſſary in this diſtance, to regard a ſmall difference between the modern and ancient Mile: I even ſuppoſe, that the meaſure of way in that ſpace may amount to 1500 paces, inſtead of 1400 in a direct line. If then we cut off more than 900 Paces to find the term, or end of the Mile in queſtion, leſs than 600 Paces will remain for the reſidue of the ſpace to the point taken in the *Forum*. Now, it would be neceſſary to ſuppoſe in this caſe, that the incloſure of Servius Tullius was no farther diſtant from the centre of Rome; and it would follow, that the Porta Capena would have been at the extremity of the great Circus, and which is ſtill leſs probable, only the leaſt part of Mount Aventine would be included in the ſame incloſure. But, as there is great foundation to believe, that theſe circumſtances do not agree with the walls of Servius Tullius, nor the ſituation of the Gate Capena; and as that Gate was remarkably more diſtant from the centre of Rome, and conſequently not ſo far from the actual place of the Gate of St. Sebaſtian; we muſt conclude, that the place of the Pillar, at only 80 Paces beyond this laſt Gate, does not anſwer to the firſt for the diſtance of a Mile.

The Inſcription of a Barberine Marble is quoted, by which Salvia Marcellina makes a donation to the College of Æſculapius, of ſome lands ſituated near the temple of Mars, *intra Milliarium* I. & II. *ab Urbe euntibus*. Theſe local circumſtances fix us concerning the Appian Way itſelf, and the neighbourhood of the Gate Capena. And from it reſults in an unqueſtionable manner, that the *primum Milliarium* upon this Way could relate only to the gilt Pillar. The temple of Mars here in queſtion, was very near and in ſight of the Gate Capena: two verſes of Ovid's (Faſtor. VI.) expreſly ſay ſo; and Servius the Commentator of Virgil, writes, *in Via Appia prope Portam*. That Temple was ſituated upon an eminence, called *Clivus Martis*, as is certain from the Acts of St. Sixtus, who ſuffered martyrdom *in Clivo Martis ante Templum:* and the *Clivus* is ſtill known in the riſing ground, over which the preſent walls of Rome runs, at the very gate of St. Sebaſtian; which is further confirmed by

by inſcriptions found upon the ſpot, and of which the *Clivus Martis* is the ſubject. We know therefore the poſition of the Temple of Mars, not only in reſpect to its proximity to the ancient Gate Capena, but alſo by the diſpoſition it ſelf of the ground on which it was ſituated. And it is ſingular enough, that the nearneſs of ſituation to the Gate of St. Sebaſtian, fixes that Temple in a place, which is even on this ſide of that, where the firſt pillar was dug up, rather than beyond it, as the Barberine Inſcription ſhould require; which proves the diſplacing of the Pillar. We muſt further obſerve, that as this Temple being ſituated near the Gate of St. Sebaſtian, was however not far from the ancient Gate of Capena, as it ſubſiſted in the Walls of Servius Tullius, it follows, that that Gate could not be ſo diſtant from that of St. Sebaſtian, as the ſpace of a Mile compoſed as above would require. It is not in the compaſs of a City, even as great as Rome, that places near a Mile from each other, are deſcribed by the uſe of the term *propè*: that term ſhould only be employed to expreſs an indefinite ſpace of a Region or Country. Now, by the combination as made above for the ſpace of the firſt Mile, it appears, that the Gate of St. Sebaſtian is 14 or 1500 Paces from a point taken in the *Forum Romanum*: conſequently, the Temple of Mars, near that Gate, was *intra* I. & II. *Milliarium* in reſpect to the gilt Pillar placed in the Forum: whereas in reckoning from the Gate Capena, ſuppoſing it ſtill leſs diſtant, than can well be ſuppoſed, from the centre of Rome, the ſame Temple would be *intra* I. *Milliarium*.

THIS Queſtion has carried me farther perhaps than conſiſts with this preliminary diſcourſe: but I refer for a farther diſcuſſion upon the ſame ſubject to what is ſaid upon the diſtance of Albano and Aricia in reſpect to Rome, in the firſt Section of the third Part of this Work. For the reſt I aſk, why all the diſtances in general round about Rome cannot be found compleat in their application upon the ſpot, but by extending them to the centre of Rome, when thoſe diſtances are taken going back to that City. Antiquity would ſupply circumſtances for founding the ſame concluſion in reſpect to ſeveral other Cities, and which require, that the Itinerary diſtances meaſured upon the Roman Way, ſhould be alſo referred to their centre.

And

And tho' we ſhould not have ſuch lights, is not our opinion ſupported above by poſitive and geometrical proofs? Let us conclude therefore, that in regard to the principal Cities, and thoſe from which diſtances were numbered, thoſe diſtances were taken from the centre of ſuch Cities; whereas the continuation of the ſame diſtances croſſed Cities of an inferior Claſs, without interruption of Number.

THAT, of which the Roman Itineraries are more commonly accuſed, and which tends to greater conſequence, is of being little correct in the number of diſtances: and indeed the Itinerary of Antoninus, in which the ſame diſtances are ſometimes repeated, does not always agree with itſelf. I own, that thoſe precious remains of Antiquity, having often paſſed thro' the hands of ignorant or careleſs Copiſts, are not come down to us ſo correct, as they muſt have been in the original. I have obſerved diſtances in them, which could not be right; and I have amended the error as often as the occaſion occured. But I hold, that the numbers of the Itineraries have moſt frequently been rejected only for want of knowing the proper meaſure of diſtances; or in order to refer thoſe diſtances to different places from thoſe pointed out in the Itineraries. And I cannot but obſerve in general, that in proportion to the improvements made in Geography, eſpecially with reſpect to the extent of places, we remark more exactneſs in the ancient Itineraries.

BESIDES which, theſe ſeveral Itineraries, which are pieces of a different kind, and have not been copied from each other, ſometimes correct one another: and when ſome particular Map, or local inſtruction ſupply ſome ſmall means of compariſon, the Geographer, who ought to be verſed in this kind of diſcuſſion, will find no great difficulty in diſtinguiſhing what is more or leſs exact or correct. It is not in regard to a country like Italy, that we are unprovided with theſe Geographical helps, which it is of advantage to reconcile with the Meaſures of diſtance we have from Antiquity: there is no Province or particular diſtrict of Italy, of which there is not one or more Maps extant, and in which greater or leſs exactneſs does not manifeſt itſelf.

I SHALL even obſerve tranſiently, that it is by comparing the Itineraries with the Maps, that the utility of the former becomes more evident. For if the particular Maps ſhew the faults, which we ſometimes find in the numbers of the Itineraries, the ſame Itineraries frequently determine us in the uſe we are to make of the Maps. It is common enough, that the Scales placed in Maps are uncertain and indefinite in reſpect to real meaſure, and even ill proportioned to the graduation applied to thoſe Maps. In a like caſe, ſome diſtances well eſtabliſhed, either by their agreement with the ſeveral Itineraries, or with ſome circumſtances borrowed elſewhere, (diſtances given in Roman Miles, of which the meaſure is not equivocal) will determine the real extent of ſpaces, which is of the greateſt conſequence in Geography.

IT remains to make a laſt Obſervation upon the Itinerary meaſures, and which preciſely regards their application in Geography. Theſe meaſures are not reduced to the right line in the manner they are given us, as that is only the actual meaſure of Ways: and tho' thoſe ways in general were drawn by the Romans, as ſtrait as could be, yet they were ſubject to the circumſtances of uneven ground, or cut by waters, and the other indiſpenſable accidents of nature. Beſides that the contrary would be void of all probability, the ancient Ways ſtill ſubſiſting had turnings and inequalities more or leſs ſenſible, according to the exigence of the ground. In conſequence, there are few diſtances, from which it is not neceſſary to ſuppoſe ſome deduction is to be made, in compariſon with a ſtrait and horizontal line.

WE may make a great practice of comparing meaſures of way with Geometrical lines or diſtances, and of calculating the difference, that moſt commonly occurs in them, according to different diſpoſitions of country. We may even in conſequence lay down ſome general rules or proportions of reduction of itinerary diſtances or abſolute ſpaces, by fixing even degrees of proportion, according to the diverſity of land more or leſs uneven and difficult. But a little knowledge in Geography ſhews, that the Itinerary diſtances, if they

lead

lead us into error, it is rather by inducing the Geographer to extend, than contract ſpaces, even with precaution in the uſe of diſtances In the diſpoſition of the local there frequently happens accidents, which conſume more way, than a Geographer dare ſuppoſe, and from thence it is, that in the beſt Maps, wherein the extent of ſpaces is determined by poſitive operations, thoſe ſpaces are almoſt always more contracted, than one could have preſumed upon the ſole idea of diſtances.

In the diſſertation upon *Bibracte*, which makes part of the Explanations upon ancient Gaul, I have ſhewn, that in the ſpace from Lyons to Toul, inſtead of 167 Gauliſh leagues, that are reckoned in Itineraries well proved, diſtance by diſtance, only 152 are to be found in a right line, and with the opening of the Compaſſes. The route is however well ſuſtained in its ſtraitneſs or direction; there is no high mountain to clear in that ſpace, and the two points at the extremities are invariably fixed by Geometrical and Aſtronomical methods. However, there is a deduction here of 15 Gauliſh Leagues, which make an eleventh of the diſtance, and that deduction is ſuch, as a Geographer in the like circumſtances, and without having the two extremities preſcribed and fixed, would not hazard.

I compute that the Roman Itineraries give us 214 or 215 Miles between Milan and Rimini; namely from Milan to Placentia 40, from Placentia to Parma, from 39 to 40, from Parma to Modena 36, from Modena to Bologna 25, from Bologna to Rimini 74; and we ſhall even enter into the particular examination of all theſe diſtances in diſcuſſing Lombardy. All theſe places indeed run in a more ſtrait line than is uſual in a long courſe of way, and the country is even, tho' much cut with rivers. But however, this is not a line drawn in the air; there are even differences of direction ſenſible enough, as the Map of Italy, and even the ſketch of a Map of which we ſhall ſpeak hereafter, manifeſt. And as in meaſuring the ſpace of the poſitions of Milan and Rimini, we find 207 Miles opening the Compaſſes, it is evident that a more extenſive uſe cannot be made of the Itinerary meaſures. There is wherewith to make up the fractions of the Miles neglected, ſuppoſing them ſuper-

abundant

abundant rather than otherwiſe. It would infallibly be to deceive one ſelf, and to force the meaſure of ſpaces, to reſolve to take every where elſe the diſtances given by the Itineraries upon the ſame foot. But, I am aſſured, that a Geographer, to whom it is more natural to be cautious than daring in deductions to be made in itinerary diſtances, runs rather the hazard of erring by lengthening than contracting diſtances; and what mere ſpeculation makes appear probable and evident, is frequently confirmed by comparing Maps with the true and poſitive meaſure of an infinity of Spaces.

For the reſt, theſe explanations, which turn to the advantage of the itinerary meaſures of the Ancients, are the better placed here, as thoſe meaſures will contribute much to the diſcuſſion of Italy. I have, I confeſs, ſeized the occaſion of entering into a detail upon this ſubject, capable of removing the prejudices, which only the want of ſufficient information could occaſion. Beſides which, the ancient diſtances, of which we ſhall make uſe, will be all combined with ſeveral Maps; and in that number of Maps there will be ſome, that are to be deemed Geometrical. There will even be more than one place, wherein the meaſure of ſpaces, and poſition of places, being fixed by poſitive operations, and Aſtronomical obſervations, will diſpenſe with our calling in the aid of the Ancients and with quoting them; unleſs we ſhall think proper to mention ſome of them, where the queſtion is to verify their diſtances.

In this Analyſis of Italy, we have no other object of exactneſs, except that which becomes ſenſible in a Map, or of which it is ſuſceptible. In carrying our Delicacy in this point as far as was poſſible for us, and perhaps beyond what has been commonly practiſed, and eſpecially in reſpect to the ſubject in queſtion, we pretend nothing farther, and it would be foreign to the purpoſe to require more. In conſequence we confine ourſelves to the ſole compoſition of a Map of Italy, in the manner of computing and uſing the diſtances and other means, that concur to that effect; with great attention however to exactneſs in ſettling the poſitions, to which the diſtances relate. For this purpoſe all the meaſures and diſtances whatſoever, deſigned for uſe, and taken with the Compaſſes, have

been ſeveral times accumulated, even to the number of ten, upon a Scale of ſufficiently large extent. So that it may be ſaid, that theſe meaſures and diſtances have at bottom as much exactneſs, as if the Map, to which they have been reduced, had ten times as much extent in length, or an hundred times in ſuperficies. By this means, tho' the ſpace of a degree of Latitude occupies only 33 lines, and one third in our Map of Italy, however a ſpace of 1000 Toiſes in the meaſure of diſtances is given upon the foot of about ſix Lines, a Roman Mile at from four to five Lines: and by the ſame proportion, a Stadium takes from four to five, or from five to ſix tenths of a Line, according to the ſpecies of Stadium, which is however a meaſure very evident with the Compaſſes.

But, as the relations of combination, and the ſeries of points diſcuſſed, could not appear upon the Map itſelf of Italy, without extraordinary application in tracing and diſtinguiſhing them, which might be conſidered as too laborious to the Reader; I annex here a kind of ſketch or ground-work of that Map, which ſketch being void of all that neceſſarily conſtitutes the detail of an ordinary Map, offers nothing to the eye, but the ſimple train of points, that ſerve as the baſis and foundation for the whole ſtructure. Lines drawn from one point to another, ſhew the combined relations between thoſe points, and almoſt generally have the effect of the ſides of Triangles in a ſeries of Trigonometrical Operations drawn upon paper. From thence it will be eaſy to judge, that the correſpondence of an infinity of poſitions may be laid down to ſuch a degree of connection and regularity, that it may be difficult to imagine or ſuppoſe any conſiderable diſcompoſure in a part, without hurting the harmony that prevails in the whole: that in the caſe of not being aſſured of a perfectly equal exactneſs in all the points that compoſe ſo great a body of combination, the number of thoſe that appear determined, ſupplies the inſufficiency of ſome others, and neceſſarily determines them. It would not have been practicable to inſert here a like ſketch of an equal Scale to the Map itſelf; and I ſaw no Inconvenience in reducing that Scale to half its length, as in caſe it be deſired to make a ſcrupulous proof of the particular diſtances, on which we found our plan, the Map made publick at the ſame time

with the diſcuſſion, will ſupply the means in all the extent neceſſary.

I OBSERVE however, that it was neceſſary this Sketch, relatively to the diſcuſſion, ſhould be taken from the Meridian of Paris, from which it is proper to apprize the Reader that we now ſet out, and which ſerves as a point of ſupport for the abſolute meaſure of the ſpaces diſcuſſed in this treatiſe. There is even a difference in this Sketch from the Map, of which it is neceſſary to be aware. The points or places of Longitude, determined by Aſtronomical obſervations, not agreeing with the uſual graduation of the Earth ſuppoſed ſpherical, the deviation that we find in it in a uniform and general manner (and even too conſiderable to admit the not having attention to it) will be obvious in the Sketch, from the uſe we have made in it of that graduation. It is not the ſame in the Map, in which it appeared indiſpenſibly neceſſary to conform its graduation to the true Longitude, preſcribed by Obſervations, as it is to them only it belongs to decide and direct us in reſpect to the difference of Longitude between one place and another.

THE inequality of the Degrees of Latitude or upon the Meridian, which the different opinions concerning the figure of the Earth have produced, cannot be ſuppoſed ſenſible upon a ſmall ſpace of Latitude. In order to form an obvious difference between thoſe Degrees, they muſt be taken and compared from two regions at different extremities, or at leaſt very remote from each other. We have therefore taken no other hypotheſis for the meaſure of a terreſtrial Degree, than that which has hitherto ſeemed to determine the common amount of the degrees in the extent of France, or 57060 Toiſes It is by this Computation of the Degree of the great Circle that we have calculated the Longitude or common Graduation, when it has been neceſſary to compare it with Aſtronomical Obſervations. This principle of calculation ought to be deemed moderate. We might adopt it as ſuch as it would have ſupplied more. The Fathers Le Seur and Jacquier, of the order of Minims, in their Commentary upon Newton's Philoſophy (Vol. III. p. 77.) have concluded, from the combination of the terreſtrial meaſure in France with the

Arch of the Meridian, 57100 Toiſes to be the common ſpace of a Degree.

It is not to be doubted, but that one of the moſt important circumſtances in this Geographical diſcuſſion, is the connexion of Italy with the Meridian of Paris. I am obliged for this to Mr. Caſſini, and it depends upon the points of Lions and Grenoble and that of Antibes, of which he was pleaſed to permit me to take the diſtance, in reſpect to the Meridian of the Obſervatory, upon the Manuſcript Map done in conſequence of the operations of Meſſrs. Thuri and Maraldi. The calculation by Triangles will probably give ſome ſmall difference as to more or leſs; but it muſt be allowed that theſe delicacies are of no great weight in Geography. As the Meridian of Paris is that, with which the obſervations of Longitude correſpond moſt, it was of great advantage to us to be capable of ſupporting the meaſure of ſpaces upon the ſame Meridian, in order to make them agree with the obſervations.

After having explained what was neceſſary for the underſtanding of the ſubject, I proceed to the order and diſtribution of the Work. It is divided into three Parts, and each Part into ſeveral Sections. The almoſt infinite number of combinations and diſcuſſions, of which ſuch a Work is compoſed, could not be taken and purſued without pauſes. The firſt Part includes Lombardy, which is actually diſtinguiſhed from the reſt of Italy almoſt as much as it was anciently under the name of *Gallia Ciſalpena*. Italy properly ſo called, ſeemed of too great extent to be included in like manner in a ſingle Part. We have divided it, by ſuppoſing a line drawn thro' the breadth of the country from Oſtia to Peſcara upon the Adriatic Sea, and thro' the point of Rome. What extends from Lombardy to that line, and which we ſhall call *Italia Citerior*, forms the ſubject of our ſecond Part; the third treats of that which is beyond, and conſequently in our partition will be entitled *Italia Ulterior*. But to explain more particularly the plan of our Work, we ſhall extract the ſummary of titles of the Sections, that compoſe each part of it.

FIRST PART.

LOMBARDY.

SECTION I. *Progreſſion from the Meridian of* Paris, *through* Dauphiné *and* Piemont, *to the entrance of the* Milaneze.

II. *Extent and Situation of the* Milaneze, *and its Connection with the point of* Genoa.

III. *Return from* Genoa *to the Meridian of* Paris, *through the poſition of the iſland of* Corſica, *and its relation with the* Antibes.

IV. *The croſſing of* Lombardy *to* Ravenna, *continued.*

V. *Return to the* Milaneze *thro' the State of* Venice.

VI. *Diſcuſſion carried on to the North of the* Alps, *and the Eaſt of* Trieſte.

VII. *In which what remains in reſpect to the* Milaneze, *and principally* Savoy, *is diſcuſſed.*

VIII. *Progreſſion from* Bologna *and* Ravenna *as far as* Rimini; *and the paſſing of the Meridian of* Rome *near* Rimini, *gives occaſion to diſcuſs the difference of Longitude between the Meridians of* Paris *and* Rome.

SECOND

SECOND PART.

ITALIA CITERIOR.

SECTION I. *The Point of* Rome *fixed as to Longitude and Latude; it's neighbourhood oriented. Rout to* Tuſcany *continued as far as* Civita Vecchia.

II. *Progreſſion from* Civita Vecchia *thro' ſeveral routs, as far as* Vada, *which is combined with* Corſica.

III. *The Reſt of the Coaſt and inland part of* Tuſcany, *is combined with the borders of* Lombardy.

IV. *The three great* Roman *Ways from* Rome *to the* Adriatic Sea *began from the* Flaminian *Way, that goes to* Rimini. *The point of* Ancona *connected in the progreſſion with* Rimini, *is combined with* Trieſte.

V. *Second Road to the* Adriatic Sea, *called the* Salarian *Way.*

VI. *Third Way called the* Valerian. *Breadth of* Italy, *taken from the Mouth of the* Tiber *to that of the* Aternus.

THIRD PART.

ITALIA ULTERIOR.

SECTION I. *The* Appian *Way diſcuſſed between* Rome *and* Teracina.

II. *The Appian Way, continued as far as* Capua. *Enquiry concerning the* Latine *Way from* Rome *to its junction with the* Appian. *Poſition of* Naples. *Return to* Monte Circello *and* Oſtia.

III.

III. *Continuation of the* Appian *Way from* Capua *to* Brindiſi. *Recapitulation of the diſtances in returning back to* Rome.

IV. *Progreſſion from* Brindiſi *to* Otranto, *the Promontary of* Iapygia *or Cape of* Leuca *and* Tarento. *Return from* Tarento *to* Beneventum *upon the* Appian *Way, and from the river* Aufidus *to the* Aternus, *where the* Valerian *Way ends.*

V. *Progreſſion from the Point of* Capua *to* Rheggio, *in the moſt Southern part of* Italy.

VI. *The Southern extremity of* Italy *combined with the Latitudes of* Meſſina, Syracuſe *and* Malta. *Diſcuſſions upon Longitude from Obſervations taken at* Palermo *and* Malta.

RESULT *of this Geograpical Analyſis, in reſpect to the form and extent of* Italy, *by comparing the Maps of Meſſrs.* De Liſle *and* Sanſon *with this now publiſhed.*